



WORKBOOK 2: Starting Tactics

Definitions

Don't let other boats ruin your start!

In the last issue of *Speed & Smarts* we talked a lot about starting strategy and the importance of making a plan for where on the line you intend to start. However, a good strategy will help you only so much. You can have the best strategic gameplan in the world, but if you can't implement that plan amidst a competitive fleet of boats it is worthless. That's why you need good tactics as well.

When it comes to starting, most tactical moves require you to have decent boathandling skills, a reliable sense of time and distance, the ability to anticipate what will happen next and a pretty good understanding of the rules. This issue is all about those tactics that will help you get good starts.

How other boats can hinder your start:

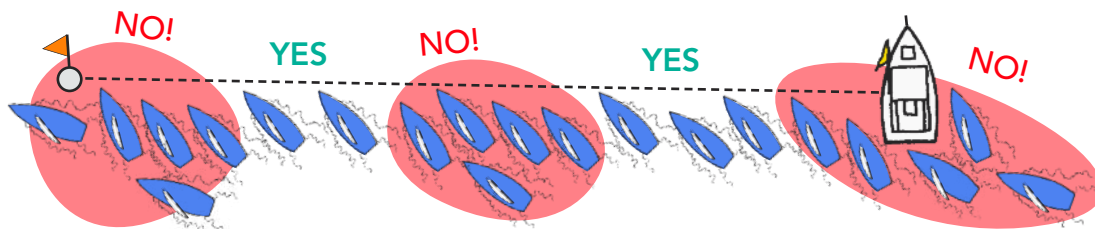
Bad air – Wind shadows can make you late for the line or drop you into the back row after the start.

Right of way – Leeward boats and starboard tackers require you to keep clear.

Blocking – Nearby boats can take away your starting options and push you in directions you don't want to go.

Pressure to push the line – Tightly packed boats tend to push each other close to (and sometimes over) the starting line.

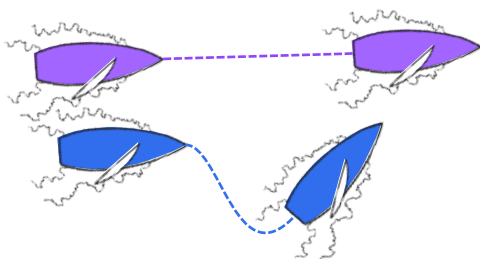
Sometimes the best tactic for getting a good start (with clear air and speed) is simply to go where other boats aren't.



What are TACTICS?

Definition: Tactics are boat-on-boat maneuvers you make because of the presence or position of one or more other boats.

Starting Tactics: As you approach the start, tactics are the moves you make relative to other boats to help stay in control of your start, maintain the option to maneuver as you want and follow your strategic starting plan.



Your starting strategy is the plan you make for where to start on the line. Tactics are the boat-to-boat moves you make to get yourself there with speed and clear air.

SPEED & Smarts™

WORKBOOK 2

Starting Tactics

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This issue is the second in a series of new 'workbooks.' Upcoming workbook topics include Upwind Strategy and Upwind Tactics.

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All photos (except pages 1 and 2) are from
videos taken by Felipe Juncadella.

This issue includes some material
from the workbook that goes with
the *Speed & Smarts* seminar on
starting strategy and tactics.
If you like this issue, you might be
interested in attending one of our
seminars next winter. More info [here](#).

JH Peterson photo



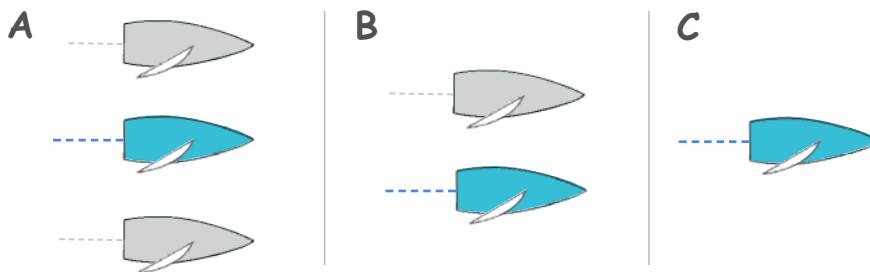
Use tactics (only) when necessary

As we discussed in the last issue, *strategy* should (almost) always come before *tactics*. When you're approaching the start, your first objective is to follow a strategic plan for where on the line you want to start. Then, if necessary, use tactical moves to implement this plan amidst the fleet.

There are several reasons why you want to avoid tactics as much as possible: 1) being near other boats increases your risk of breaking a rule, getting bad air, being OCS, etc.; and 2) maneuvering against one other boat often means you lose to every boat in the fleet. However, the starting line is usually crowded, so good tactics are often necessary – that's why this issue is full of starting tactics.

Keep your options open

A key tactical principle is to keep your options open as much as possible. Because conditions are always changing in a sailboat race (and it's hard to predict many of those changes), it's valuable to maintain the ability to tack, jibe, go left, go right, etc. So don't let other boats control your choices. In situation A, for example, the Blue boat cannot tack or jibe – she has lost control of her approach to the start. In B, Blue has a little more choice, but still can't tack. In C, Blue is free to do whatever she wants. This should be your tactical goal, both before and after the start.

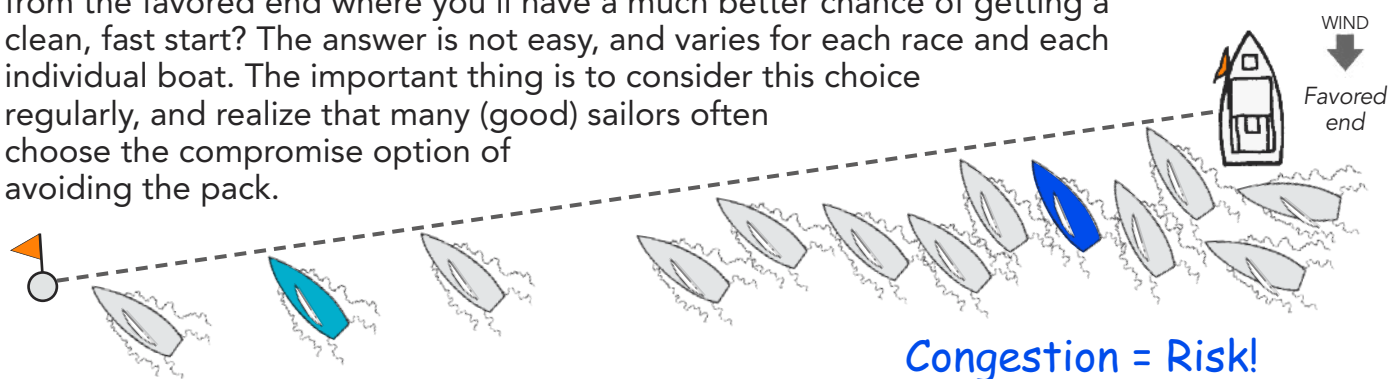


The valuable (and essential) art of compromise

The best starting strategy often requires a willingness and ability to compromise. It's very tempting to start at the favored end because that makes it easy to follow your first-beat strategy. But, unfortunately, a lot of other boats usually have the same idea.

Most sailors have learned the hard way (many times!) that starting in the middle of a pack is difficult. The odds of getting a good start in a crowd can be significantly lower than getting a good start in an uncrowded part of the line. It's great when you can get off the line cleanly at the favored end, but unless you are a very good starter, this doesn't happen so often. That's where compromise comes into play.

The basic question to ask yourself before each start is simple: Is it better to start near the favored end where it may be tough to find clear air and speed? Or should you move away from the favored end where you'll have a much better chance of getting a clean, fast start? The answer is not easy, and varies for each race and each individual boat. The important thing is to consider this choice regularly, and realize that many (good) sailors often choose the compromise option of avoiding the pack.



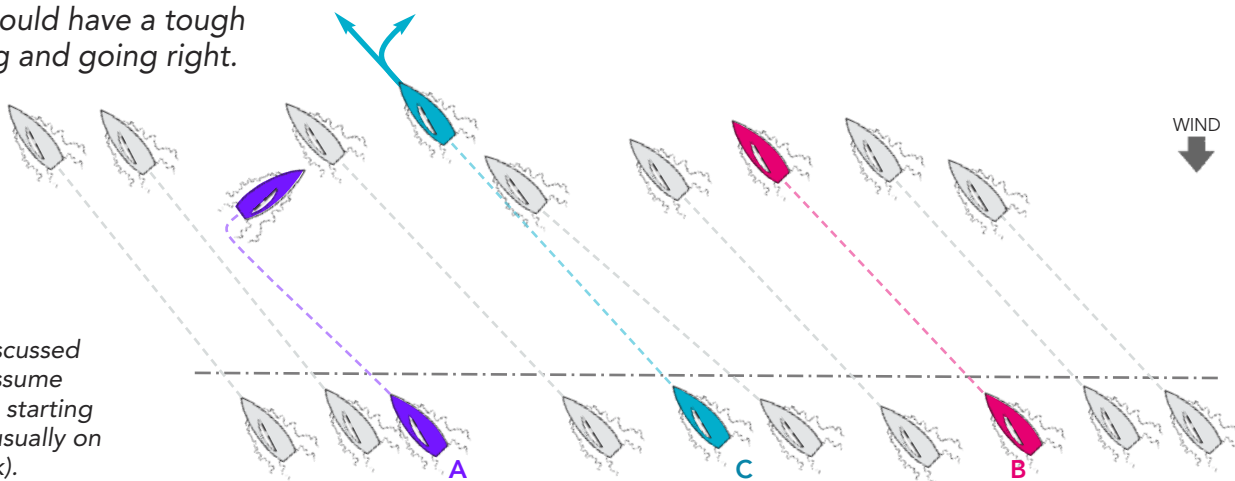
The Green boat is in great shape after the start because she has the option to keep sailing on starboard tack in clear air, or tack and go right. She is in this position because she had a nice hole to leeward at the start and she was close underneath the boat to windward. The Purple boat does not have the option to keep sailing on starboard, and the Red boat would have a tough time tacking and going right.

Tactical goals after the start

The measure of good starting tactics is not what happens *before* the starting gun, but what happens soon afterward. All the tactical moves in this issue have two primary goals:

1. Allow you to **sail fast in clear air** up the first beat. To do this you must start the race with good speed and enough space around you to avoid bad air; and
2. Give you the option to **follow your strategic game plan**. This means you must be able to keep sailing on starboard tack when you come off the line, or tack to port when you want.

The tactics discussed in this issue assume that boats are starting upwind (and usually on starboard tack).



Making a port-tack approach

Boats normally start a race on starboard tack; just before they get onto starboard they are making their final port-tack approach. Here are some tips about that last port tack:

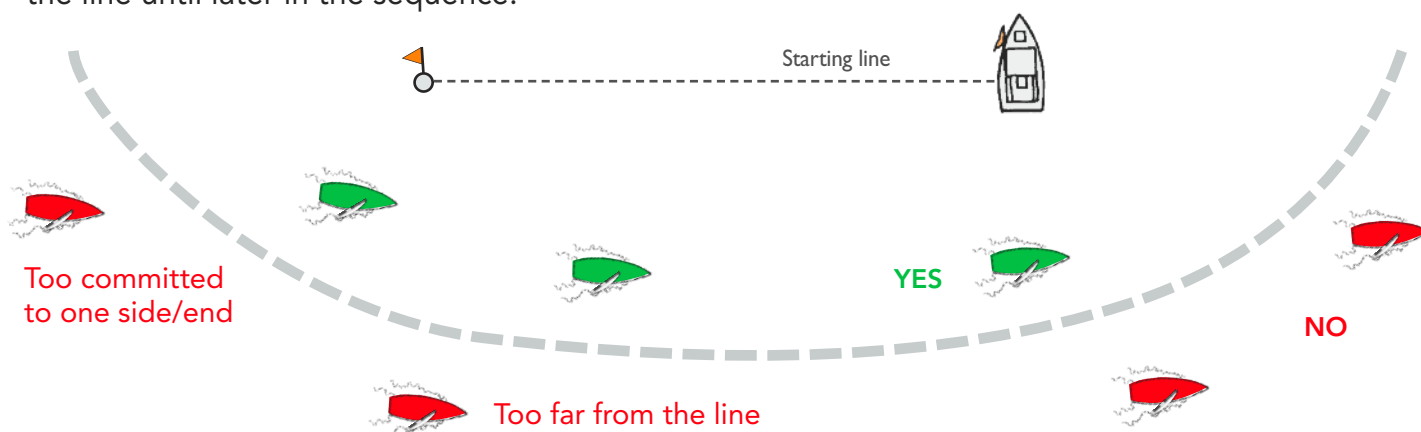
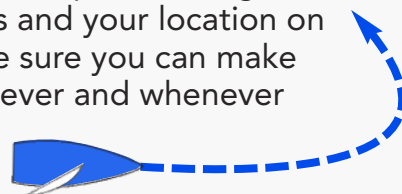
Keep your options open – Do not let other boats control where you go. Use good tactical moves to stay in charge of your own race.

Don't get too far from the line – The farther you are from the line, the harder it is to see the starting line and first beat, and the more likely it is you will be late due to a lull, shift or bad air.

Be able to modify your starting plan – The wind often changes during the last few minutes, so be flexible by staying close to the middle of the line until later in the sequence.

Defend your ability to tack

When you turn from port tack to your final starboard approach, this move is usually a tack (because a jibe typically puts you too far below the line). The timing of this tack is critical for ending up in the optimal spot with regard to other boats and your location on the line. So be sure you can make this tack wherever and whenever you want (see below).

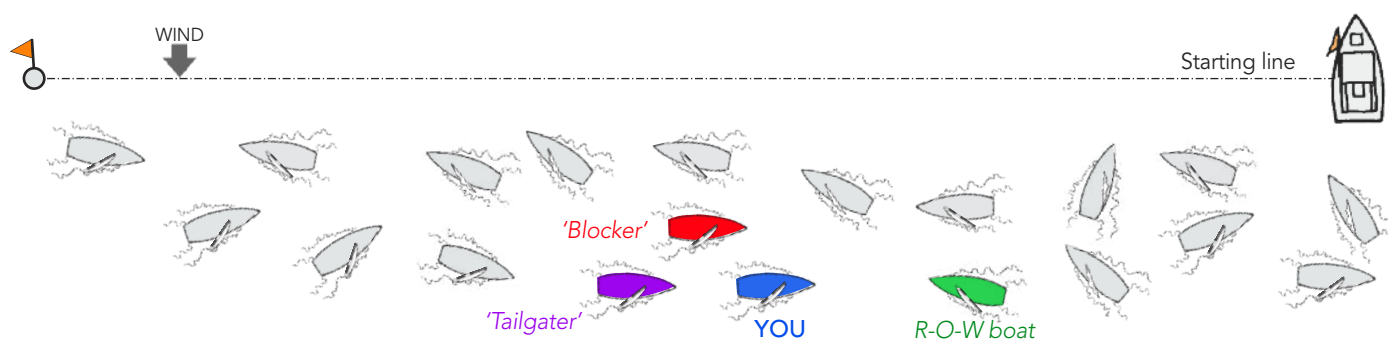


Potential problems for boats on port tack:

Right-of-way boats – All boats on starboard tack (as well as any port tackers that are clear ahead or to leeward) have the right-of-way, so you must watch out and keep clear of them.

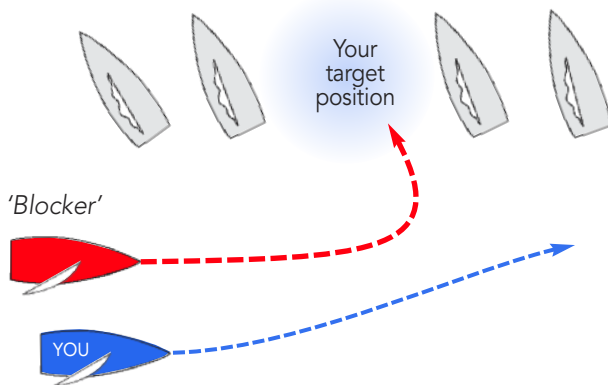
'Blocker' – A boat on port tack that is usually overlapped to windward of you. This boat is blocking you from tacking where and when you want.

'Tailgater' – A boat clear astern on port tack that doesn't block you from tacking but is a problem because she often tacks just to leeward of you on starboard tack.



The problem with a 'blocker'

A boat that's just to windward of you on port tack may not be intentionally trying to prevent you from tacking, but she is in fact doing so. The basic problem is that you can't tack when and where you want. You may lose the chance to tack into the ideal space and you may be forced to sail farther down the line, later into the sequence than you want, reducing your odds of getting a good start.

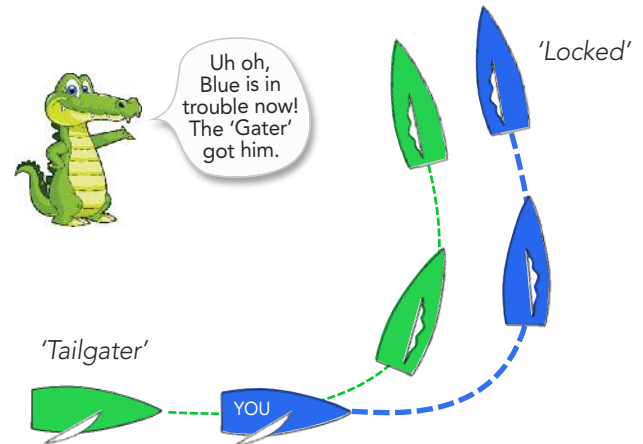


Dealing with a 'blocker'

- Don't get into this situation in the first place
- Be proactive – change the situation so there is no longer a boat blocking you from tacking
- Work on this as soon as possible (see page 6)

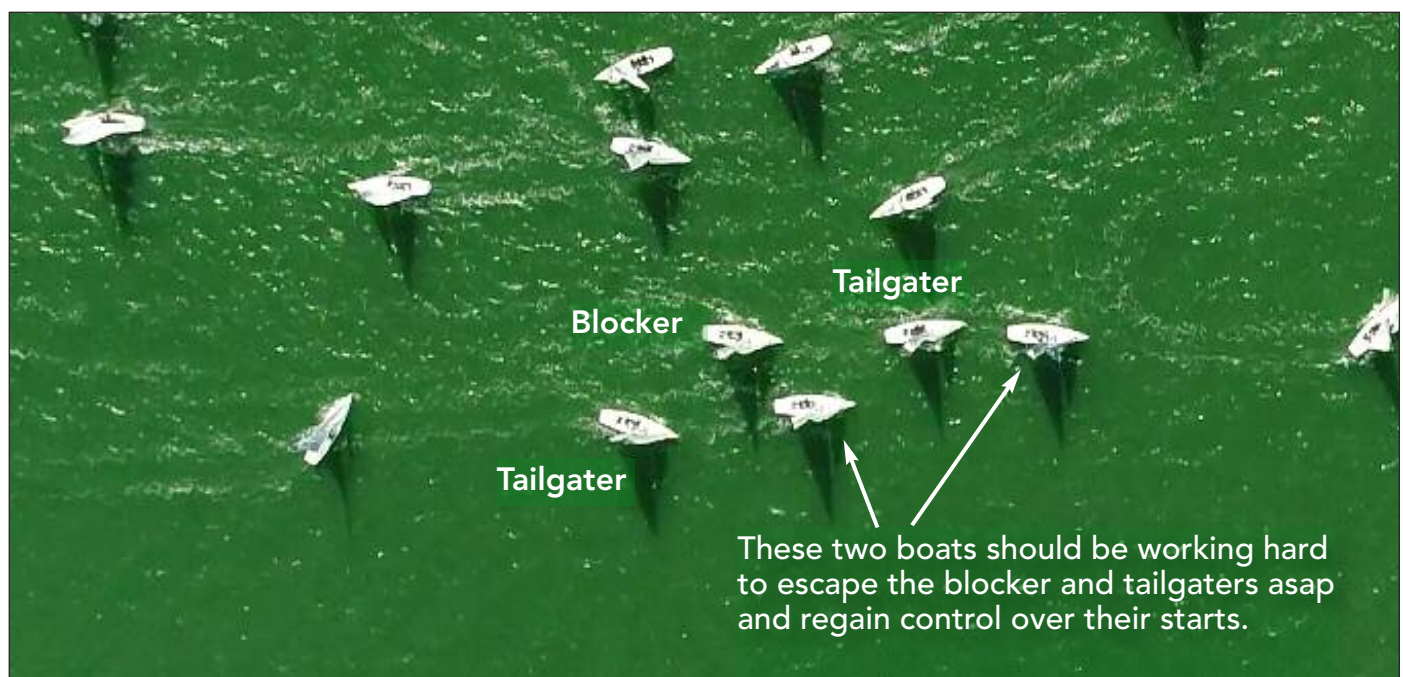
The problem with a 'tailgater'

A boat following close behind you on port tack is probably not trying to prevent you from tacking, but she is likely planning to tack when you do so she ends up close to leeward and overlapped with you on starboard tack. From there she will simply hold you above closehauled until it's time for her to bear off and accelerate, leaving you in her wake and bad air.



Dealing with a 'tailgater'

- Don't get into this situation in the first place
- Be proactive – change the situation so there is no longer a boat right behind you
- Work on this as soon as possible (see page 7)

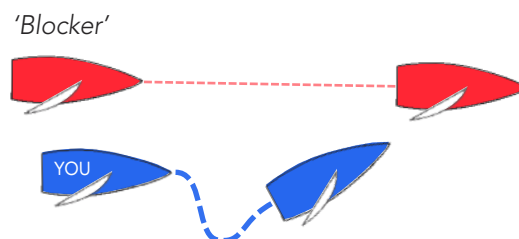


Four ways to get rid of a 'blocker'

When a 'blocker' to windward is limiting options on your port-tack approach, be proactive to change the situation and regain the ability to tack to starboard whenever you want. Here are some tactical moves you can make to accomplish this:

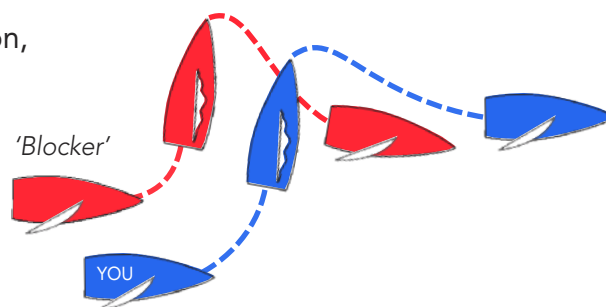
Bear off and slow

The best way to get free from a 'blocker' is usually to bear off sharply and slow down to let the blocker move ahead of you. Once you have regained the ability to tack (i.e. you are no longer overlapped to leeward of the blocker), head back up to your normal port-tack course. The only time when this doesn't work is when you have another port-tacker close to leeward, or one or more starboard tackers aiming to pass on your leeward side. In those cases, go with one of the other escapes below.



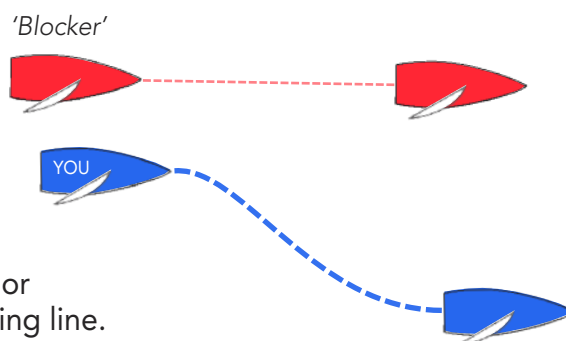
Luff and go

When bearing off to escape a blocker is not a great option, consider heading up instead. Luff fairly sharply until you (and the blocker) are almost head to wind. Pause for a few moments until the blocker slows down, then bear off sharply and accelerate on a beam reach. You will now most likely be clear ahead of the blocker and free to tack (but you may have created a tailgater problem – see next page).



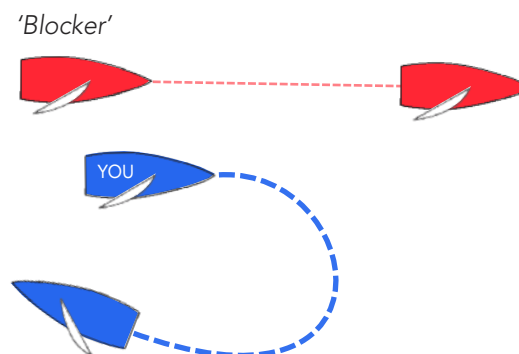
Bear off and separate

A slight variation on the 'bear off and slow' is the 'bear off and separate' to leeward. You don't necessarily have to slow down if you are able to get far enough to leeward of the blocker that you have room to tack below and behind them. This does not work if the blocker simply bears off to match your course and stays close to windward. Also, be careful about doing this in conditions (e.g. light air or adverse current) where it's risky to get too far from the starting line.



Jibe and circle back

If you really want to get away from the blocker, jibe onto starboard. You can then make this your final starboard-tack approach, or if it's too early for that, tack back onto port. Jibing may be a good move when there are multiple reasons to bail out from your original position; e.g. you were in a pack of boats or there was more than one blocker to windward. But remember jibing takes you to leeward, so beware of doing this in conditions like light air or adverse current.

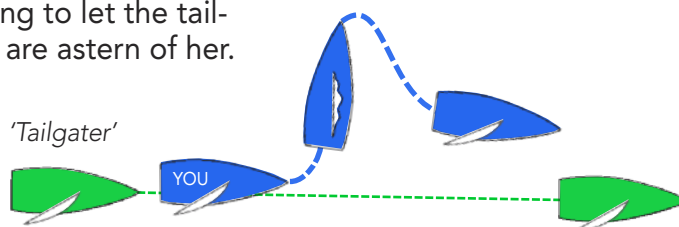


Four ways to escape from a 'tailgater'

When a 'tailgater' astern is in a position to end up just to leeward of you after you tack to starboard, be proactive to change the situation and avoid being controlled by the other boat. Here are some tactical moves you can make to accomplish this:

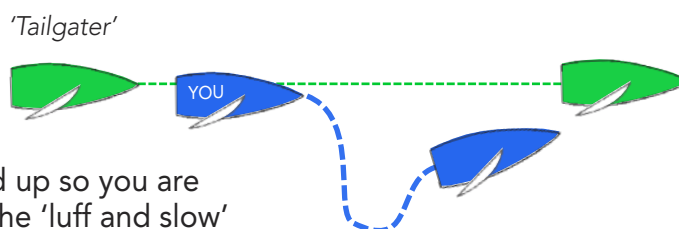
Luff and slow

Sometimes the best way to get rid of a tailgater is simply to slow down and let them 'play through.' Do this by luffing your sails and heading up until you are almost head to wind, waiting to let the tailgater pass behind you, and then bearing off so you are astern of her. This tactical move is like a 'reversal' in wrestling because you switch from the boat that was being controlled to the boat that now has control over the former tailgater. The main benefit of this tactic is that you regain the ability to tack without being pinned from behind.



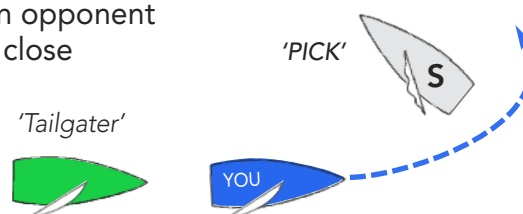
Bear off and slow

You can also let the tailgater 'play through' by heading down instead of up. Bear off sharply until you are nearly dead downwind, wait for the tailgater to pass to windward of you, and then head up so you are astern of the tailgater. This is a good option when the 'luff and slow' maneuver would put you too close to other boats to windward.



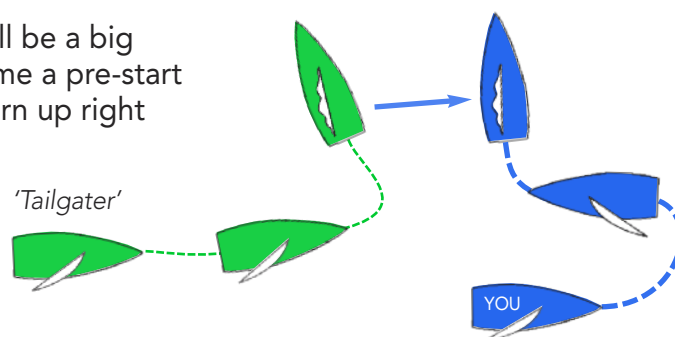
Use a 'pick'

Another way to get free from a tailgater is to use a starboard tack (S) as a 'pick' (in the same way that a basketball player tries to lose an opponent who is chasing him/her). When a boat on port tack is following close behind you, 'cut them off' by heading up around the stern of the starboard-tacker, which is an obstruction according to the rules. Go past S and tack just far enough to windward that you will have enough leeward space to start, but not so far that the tailgater will tack and fit between you and S.



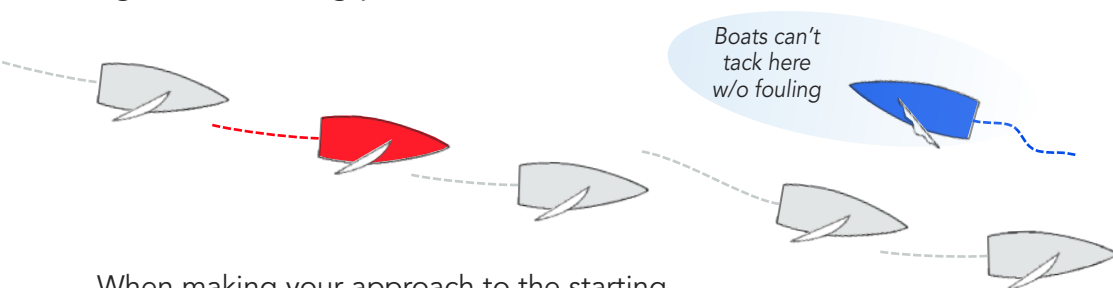
Tack and aim

Even if a tailgater is not right behind you, she can still be a big problem. If you simply tack onto starboard and assume a pre-start luffing position, any boat coming from behind can turn up right along your leeward side and 'lock' you in that position. To prevent this, turn 180° when you tack and aim directly at the bow of the other boat. This forces her to tack earlier to keep clear of you. As soon as she commits to tacking, luff up hard to maintain a gap between you and the other boat.



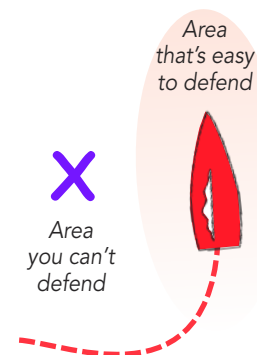
When in doubt, set up early on starboard tack

One good way to eliminate, or at least minimize, the problems caused by blockers and tailgaters is to make an earlier tack from port to starboard. By tacking before most of the other boats are ready to make their final tacks to starboard, you are much more likely to find uncontested space in which you can turn. Once you get onto a starboard-tack reach, it's relatively easy to defend against incoming port tackers.



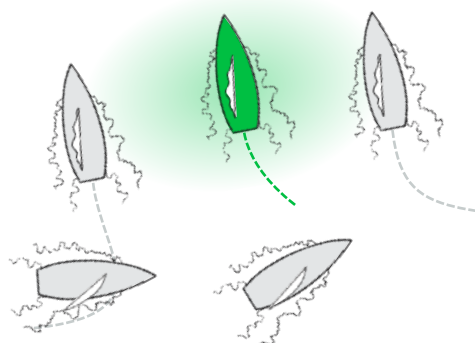
When making your approach to the starting line, would you rather be the Blue boat or the Red boat?

I'd usually rather be Blue. The problem with Red's position is that all the boats on port will end up tacking at about the same time, so it will be hard for Red to carve out her own approach to the line. Often Red will have trouble tacking when she wants, or another boat will be right underneath her after she tacks. Blue, on the other hand, tacked when it was easy (before everyone wanted to tack) and is now better able to defend the space around her.

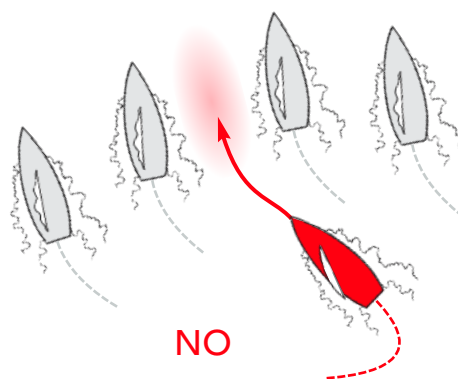


The difficult thing about tacking onto starboard is that while you are turning you can't defend yourself against a boat coming from your left (X). So if you make this tack in the middle of the fleet, you are likely to end up with a boat close to leeward on starboard tack.

YES



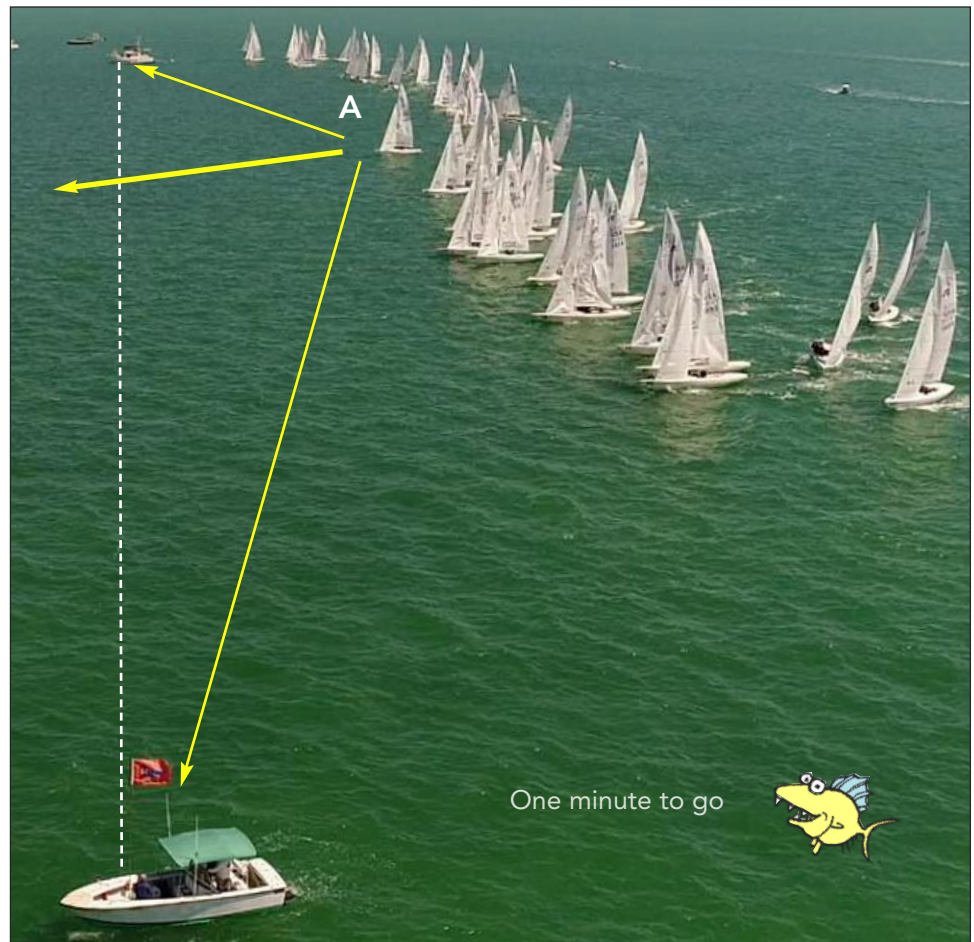
Another reason to set up early on starboard tack is that it's usually easier to be one of the first boats on starboard tack and then defend the space around you (left) than it is to enter the starboard lineup late (right) and try to squeeze into a space that other boats are already defending.



Why it pays to get on starboard tack early:
If you wait too long you may not physically be able to get into the front row. Look at all the port-tack boats on the left side of this line who will have a hard time finding a spot on starboard tack.

All the boats in the front row of this starboard-tack lineup have a good view of the starting line and the first beat. Boat A, for example, can see the committee boat and her line sight through the pin end, and she can watch what the wind is doing up the first beat. Most of the boats in the second and third rows can't see any of these things, so they don't know how far they are below the starting line nor where the best pressure is right now on the race course.

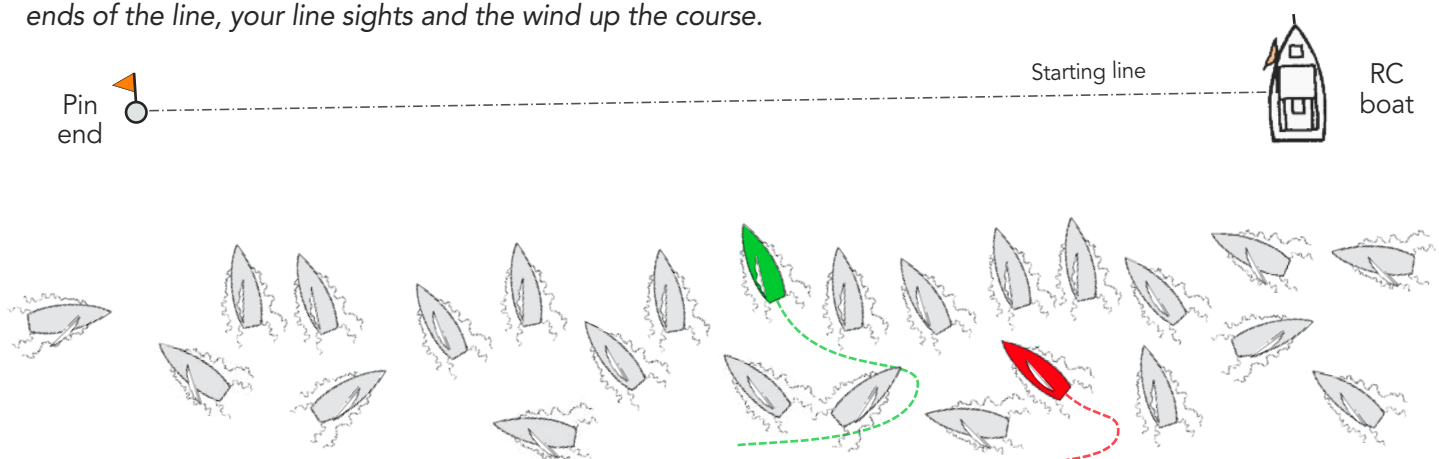
Boat A has the added advantage of knowing she won't be late for the start. She isn't being affected by bad air, and she won't be hurt too much if the fleet gets a lull or a header as they approach the line. Of course, A does run the risk of getting to the line too early, but if she thinks the fleet will be pushing the line she can always slow down and drop back into the front row of starboard tackers to minimize her risk of being called over early.



Poke in front on your final approach

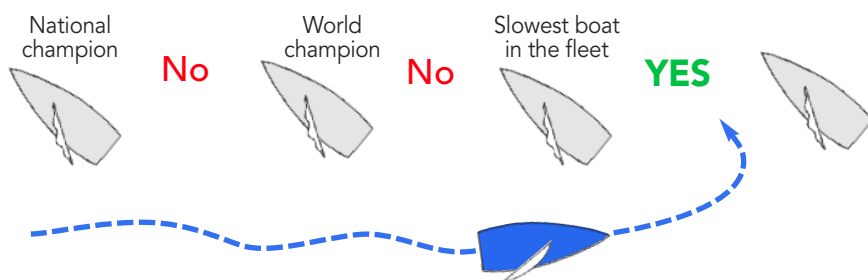
While making your final approach on starboard tack, it's important to be in a front-row position where you have a clear view of both ends of the line, your line sights and the wind up the course.

One minute to go



GREEN is in a strong position. She's in the front row, poked ahead of the boats around her. This allows her to see both ends of the line and her line sights beyond each end. She can also see what the wind is doing up the course. If the fleet is late (due to current, a lull, a left shift, etc.) she will be able to sail fast to the line.

RED is not in a strong position. She's in the second row and may have trouble getting to the front of the pack. She has a bad view of the starting line, so she doesn't know how far the fleet is from the line. She can't see what the wind is doing up the course, and if the fleet is late to the line she will be in trouble.



Choose your neighbor

When you come off the starting line on starboard tack, the most important boat in the fleet at that moment is the boat just to leeward of you. This is the boat that often pinches up underneath you and forces you to tack for clear air. To avoid this, you need a gap to leeward at the gun and relatively good pointing/speed.

If you could pick any boat to be just to leeward of you at the start, would you choose the current world champion or the boat that's last in the season standings? The answer is clear – you will usually have a much better chance of holding your lane above a slow boat than a fast boat. So don't leave this to chance. As you make your final approach on port tack, look for a boat luffing on starboard that you know will not be fast upwind. Sail past her transom, tack onto starboard a boatlength or two to windward of her, and stay close enough on her windward side that other boats can't fit between you. Maintain this position so she will be just to leeward of you as you come off the starting line.

Howdy neighbor!



Think about risk

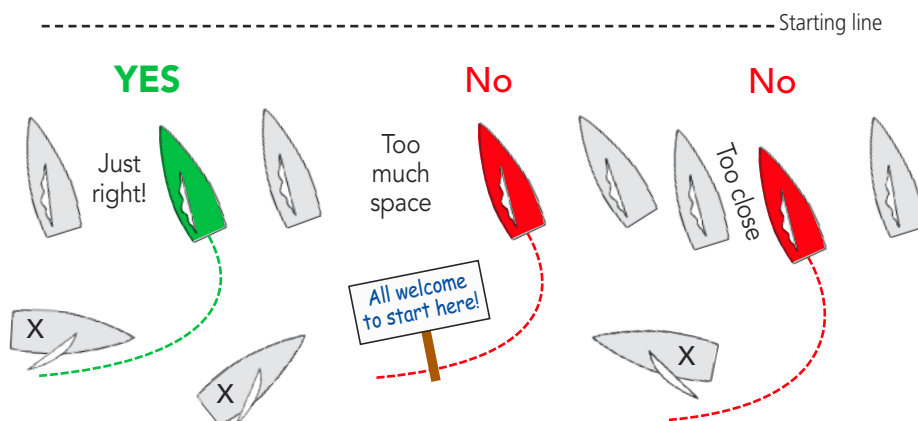
It's hard to talk about tactics in a fleet with considering risk. In sailboat racing, your goal is to beat other boats, so risk is always relative to those boats. The more you interact with the rest of the fleet, the greater your risk (of breaking a rule, sailing in bad air, being pushed the wrong way, etc.). And the level of risk also goes up as fleet density increases. This is particularly true at the start where parts of the line are very crowded and therefore bring a lot of risk. Risk is not inherently bad, and sometimes you will decide to take certain risks, but the key is that this should be a conscious choice, not just something that happens.



Don't be greedy!

As you approach the starting line on starboard tack, be careful about leaving too much space between you and the next boat to leeward. If you try to protect more than your share of the line, any boats still looking for a front-row spot will fill your space.

To prevent this, position yourself with a hole to leeward that is just big enough for you to get a good start and just small enough so it won't attract other boats. When there are no longer boats looking for space in the front row, you can try to enlarge your hole to leeward.



Don't tempt other boats to fill the critical space on your leeward side. As long as there are still boats (X) behind the front row looking for a spot, don't try to save too much space for yourself since another boat will likely end up there and ruin your start. If you guard just enough space to get a good start relative to the leeward boat, it will be easier to protect this from scavengers.

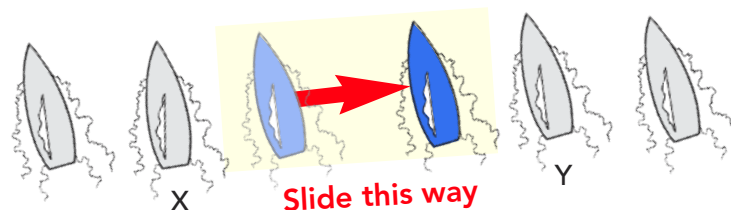
Making your final approach on starboard tack

After turning from port tack to make your final approach on starboard tack, focus on these tactical priorities:

Maintain space around you – It's very tough to start the race with full speed and clear air when you are squeezed between other boats. So don't position yourself on a part of the line with a dense crowd of boats, and use your time on starboard tack to carve out and maintain a hole for yourself, especially on your leeward side (see *right*).

Know the line location – Don't rely on other boats to show you where the line is because often they don't know (page 16).

Prepare to accelerate – The last 10 or 20 seconds before the start involves timing and acceleration. If you are slow to get going (or not skilled at it) the boat to windward will roll you. If you pull the trigger too soon, you risk being over the line early (or having to bear off and use up your hole to leeward). To be successful you must know where the line is and balance that with an awareness of what the boats around you are doing.



Move to the right in your space

If you want to keep sailing on starboard tack after the start, the most important factor is having enough space on your leeward side so you can put your bow down and go fast when necessary (e.g. when you get a bad wave or a header). That's why you always want to move from left to right (above) in your hole as you approach the starting line on your final starboard-tack approach.

Your goal is to maximize the space between you and X, and minimize the space between you and Y. By moving farther away from X you'll have more space to accelerate and less chance of falling into her bad air. By getting closer to Y, you will be better able to control her before the start and pinch her off more quickly after the start.



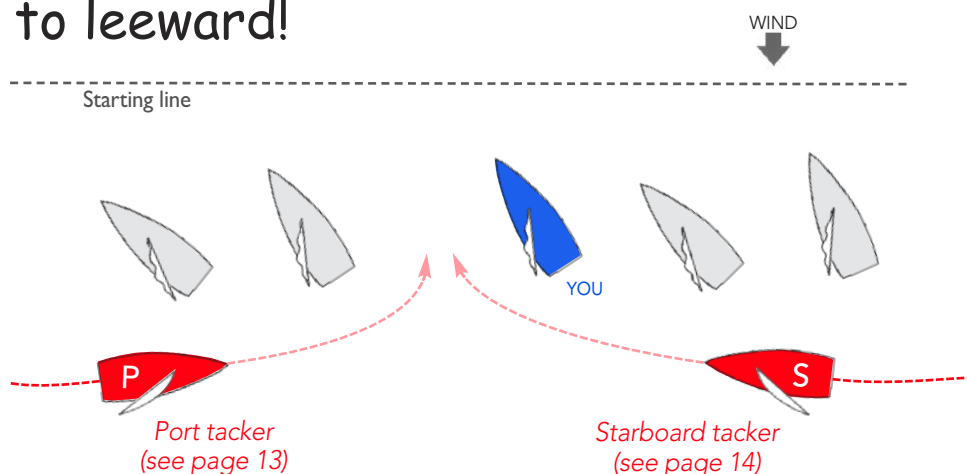
In this Melges 24 start, the green boat (farthest right) got a great start, but she may have taken too much risk of being OCS. Boat 838 (with black sails) has a very good and conservative start; she is fairly close up underneath the boat to windward and she has a huge hole to leeward, so she can put her bow down for speed whenever she needs to.

Boat 801 (third boat from left, mostly hidden) does not have a good start. It looks like she was slow to step on the accelerator before the gun, and she is already at least half a boatlength behind the front-row boats. In addition, she is much too close to the boat (849) on her leeward side and won't be able to hold her lane, especially since 849 happens to be a former world champion!

Protect your space to leeward!

When you get into the lineup on starboard tack to make your final approach to the starting line, one big priority is protecting the hole on your leeward side. Without a certain amount of space there, you will usually end up in bad air and have a bad start.

There are two kinds of threats to the space on your leeward side: 1) a boat on port tack reaching toward you from the pin end, and 2) a boat on starboard tack coming at you from astern. To get a good start you need proactive defensive tactics to fend off both of these boats. That's what the next few pages are about.



The key to a successful defense of your hole to leeward is anticipation. If you don't see other boats coming until they are right next to you, it will be impossible to keep them from stealing your space. So a big priority is keeping a good lookout.

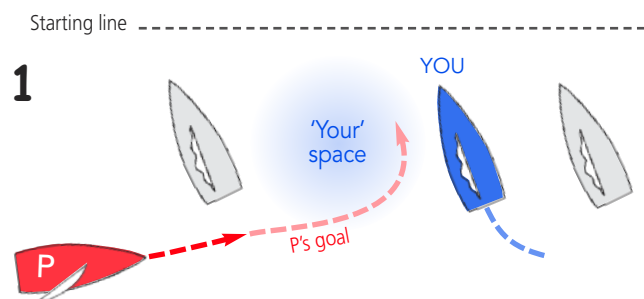
It's relatively easy to see boats coming on port tack because most of the people in your boat are looking forward and to leeward to see the pin end, your leeward gap and the wind/waves ahead of the boat. It's much harder to see boats approaching from behind you on starboard. I suggest appointing one crew to face aft and sound a warning about any incoming boats.



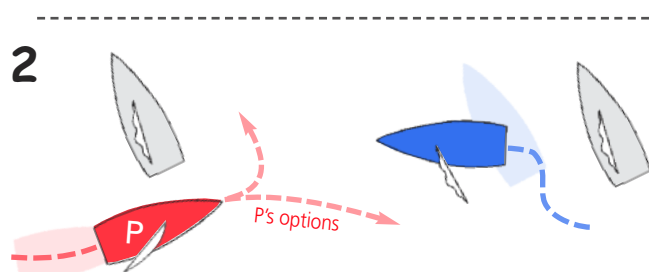
In this 470 start with about 30 seconds to go, almost all the boats are on starboard tack, trying to create a little more space on their leeward sides. But with so much focus on boat-to-boat tactics, they risk losing track of the big picture. The boats in the middle of the line are working especially hard to defend their positions, but it looks like they're not thinking about where they are relative to the starting line (there was a big mid-line sag at the gun).

Defend against a port tacker

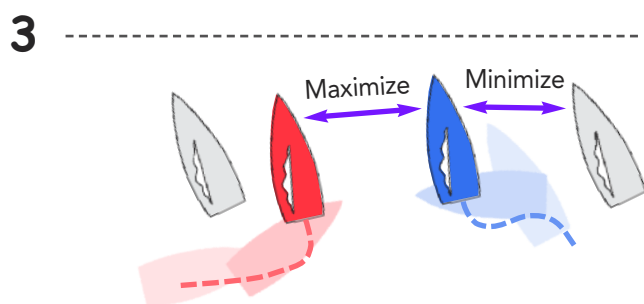
The biggest threat to the space on your leeward side is usually a boat that approaches on port tack, so keep an eye out to leeward (and assume any boat approaching on port will try to tack into your hole). If you do nothing to defend against this boat they will tack close to leeward of you and make it difficult for you to get enough room to accelerate.



Below: When you see a port tacker (P) approaching, turn your boat quickly and aim at P. Ease your main and jib sheets completely and use a lot of rudder to minimize forward movement (so you don't use up your hole). Your goal is to make P tack early (i.e. farther away from you) or keep going past (behind and below) you.

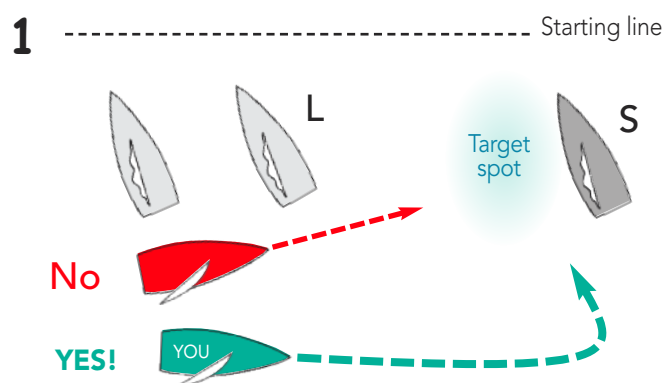


Below: As soon as P commits to tacking (or passing below you), turn hard to starboard (windward), trimming your main rapidly and using lots of rudder. Your goals are to maximize the space between you and the boat to leeward (P), and minimize the space between you and the boat to windward.

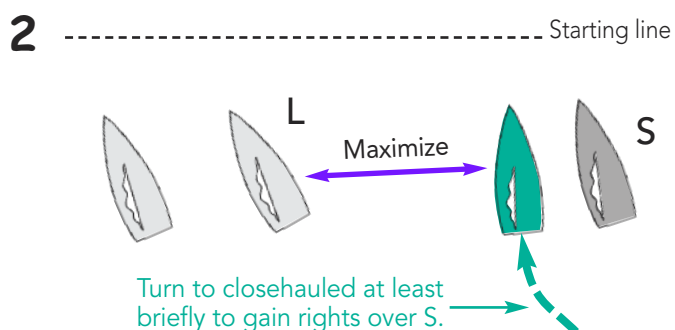


When you are the port tacker

When you are on port tack approaching a starboard tacker (S) and you want to tack in the hole just to leeward of her, don't aim right at S. She will see what you're trying to do, and it will be relatively easy for her to bear off at you and make you tack early (see left). Instead, aim (and look) behind her stern as if you're going to sail past and go farther up the line. Once you are almost dead astern of S, turn up and tack into the windward side of the hole just to leeward of her.



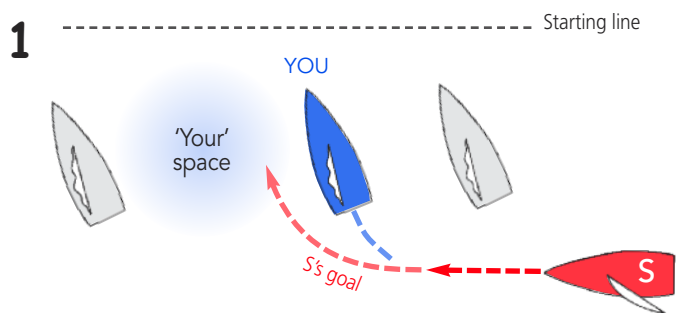
Above: Most tactical moves work better if you disguise your intentions a bit. If you're on port and you want to tack into the hole between S and L, don't make this tactic so obvious. Instead of aiming right at S, stay farther to leeward and steer a course as if you will pass behind S. Once you are almost astern of S (and she has forgotten about you), turn up sharply toward the space just to leeward of her.



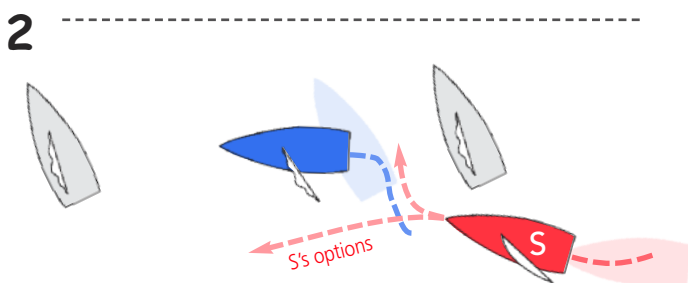
Above: Your goal is to end up very close to leeward of S and approximately bow to bow. This will maximize the space on your leeward side (between you and L) and 'lock in' S close on your windward side so it will be easy to pinch her off after the start (and hopefully gain the option to tack). Note that when you tack it's helpful to turn to a closehauled course before you luff up under S; otherwise she will have the right of way.

Defend a starboard tacker

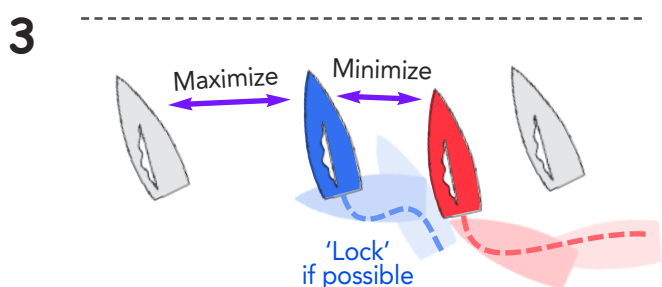
Another threat to your space is starboard tackers that reach along below the front row looking for a hole (*below*). Because these boats approach you from behind, they often go undetected until it's too late. So make sure someone in your crew is responsible to watch your windward aft quarter and give a warning before any boat gets too close.



Below: When you see a starboard-tack boat (S) approaching from behind, turn your boat quickly until you are parallel to the line. Turn your rudder sharply and luff your sails so you don't move forward very much. Your goal is to make S luff up on your windward side or pass below you and keep going down the line.

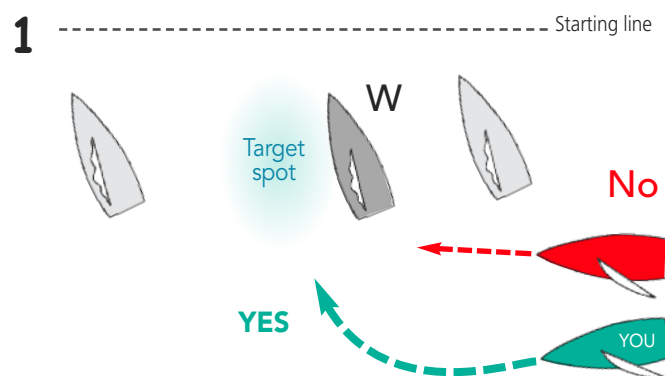


Below: As soon as S commits to luffing above you or passing to leeward (without going into your hole), turn your boat hard to starboard (windward). Your goal is to keep a lot of open space on your leeward side, and minimize the space between you and the boat to windward. If possible, 'lock' S on your windward side so she can't bear off behind you and take your space.

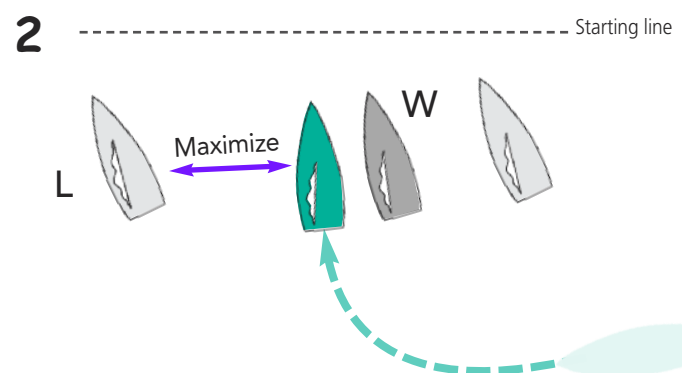


When you are the starboard boat

Sometimes you end up on starboard, reaching along behind the front row, looking (hoping) for a space where you can start. Once you see a hole down the line, the best way to approach it is to disguise your plan a bit. If you aim straight for the open space, the boat on the windward side of that hole (W) will take defensive steps (see left) to keep you from getting a good position.



Above: When you're on starboard tack approaching a 'target spot' between two other boats, don't be obvious about what you're doing. Stay a bit to leeward and make it look like you will continue down the line. As soon as W's crew stops looking at you, head up sharply into the hole just to leeward of them.

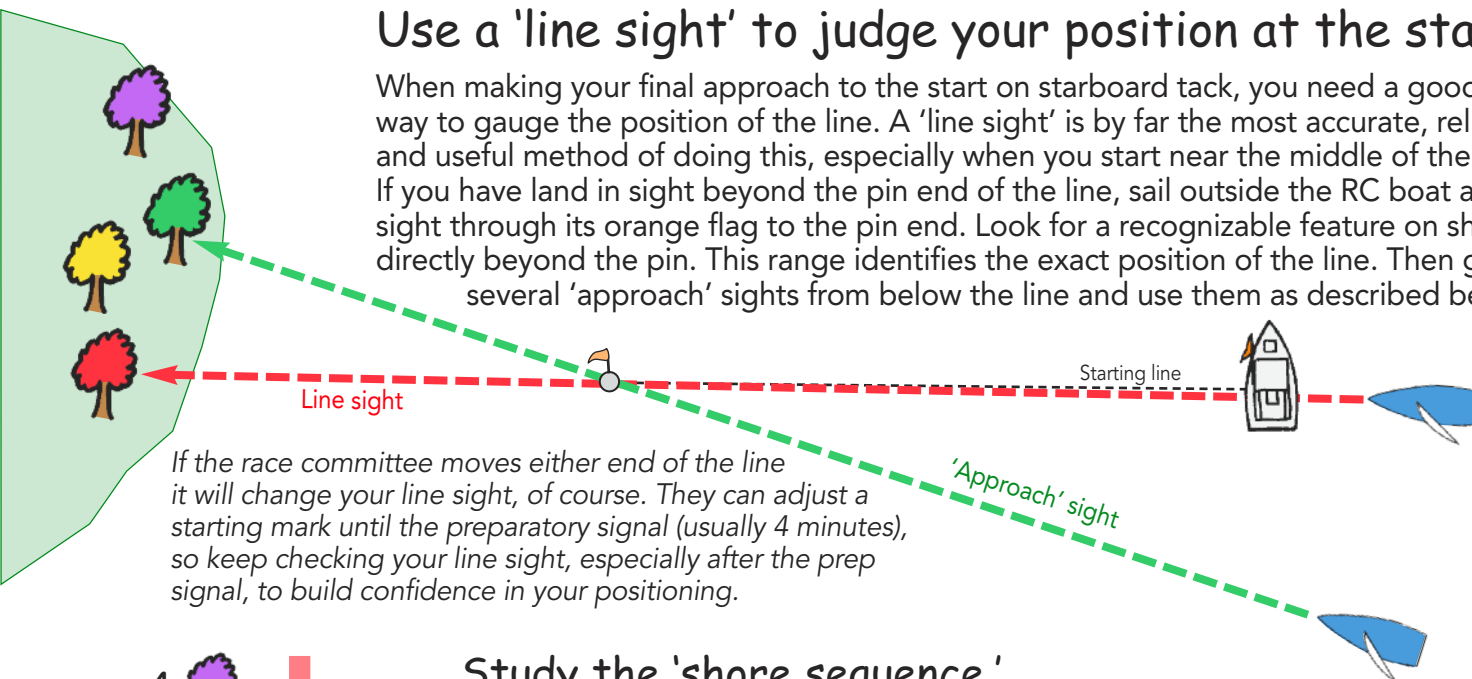


Above: Your goal is to end up very close to leeward of W and approximately bow to bow. This will maximize the space between you and L and 'lock in' S close on your windward side so it will be easy to pinch her off after the start (and hopefully gain the option to tack).

Note that as soon as you get a leeward overlap on W you gain the right of way over her, but you must initially give her room to keep clear. You can come in quite close to leeward of W, but make sure you don't have contact or you are definitely at risk. Also, you can luff head to wind to enlarge your hole to leeward, but any time you change your course you must be sure to give W room to keep clear.

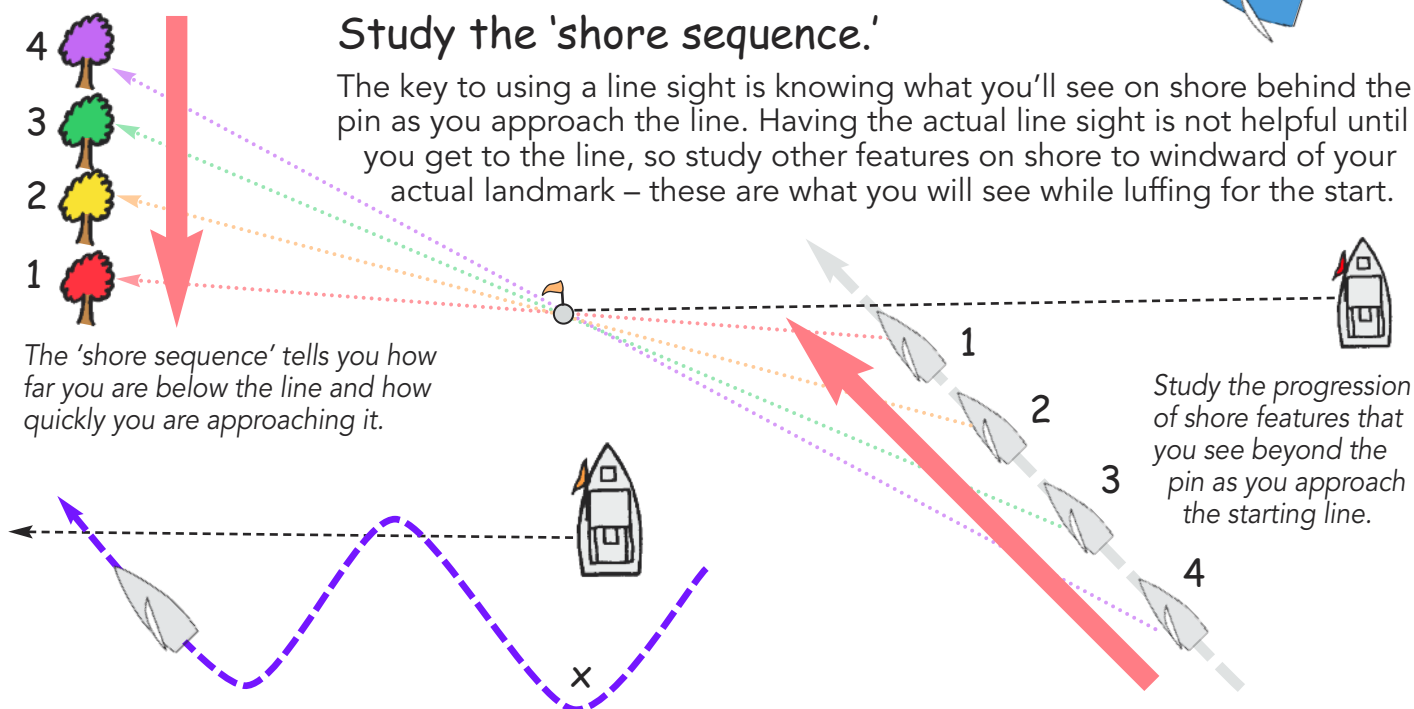
Use a 'line sight' to judge your position at the start

When making your final approach to the start on starboard tack, you need a good way to gauge the position of the line. A 'line sight' is by far the most accurate, reliable and useful method of doing this, especially when you start near the middle of the line. If you have land in sight beyond the pin end of the line, sail outside the RC boat and sight through its orange flag to the pin end. Look for a recognizable feature on shore directly beyond the pin. This range identifies the exact position of the line. Then get several 'approach' sights from below the line and use them as described below.



Study the 'shore sequence.'

The key to using a line sight is knowing what you'll see on shore behind the pin as you approach the line. Having the actual line sight is not helpful until you get to the line, so study other features on shore to windward of your actual landmark – these are what you will see while luffing for the start.



Practice approaching the line.

Once you get a line sight and some approach sights, practice using them before your start. Begin at the committee boat end on starboard tack. Sail to leeward until you are at least several lengths below the line (x). Then turn up, luff your sails and look through the pin to see where you are on the far shore. Slowly sail toward the line and watch the progression of features on the shore behind the pin until you get to the line. Repeat this process until you are comfortable with your starting approach.

Think of a movie, not a photo

A good line sight is not simply a still image of the pin end lined up with one object on shore. It should be a moving picture of objects you see on the shoreline beyond the pin (or boat) end as you approach the starting line from the pre-start (leeward) side. That's why we look for the 'shore sequence' (above).



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WORKBOOK 2: Starting Tactics

Line sag

Watch out for 'herd mentality' at the start

When it comes to fleet tactics on the starting line, psychology is usually a significant factor. With boats crowded together more tightly than at any other point in the race, a herd mentality often takes over. And this means you can gain a lot by thinking for yourself.

The phenomenon of 'line sag' is a great example. Even fleets made up of high-level Olympic sailors typically start with a significant gap between the front row of boats and the middle of the line. It almost seems like each sailor assumes that the rest of the fleet knows where the line is. That's interesting, because most of the time they obviously don't.

If you are confident about the location of the starting line (which usually means you have a good line sight – see page 15), the middle is a great place to start because that's where the sag is greatest. And, therefore, that's where it is easiest to get a head start on all the boats

around you. If you can start in front of the starboard lineup it makes the first beat so much easier!



Baa, baa...

When to expect a mid-line sag

It's likely the fleet will sag away from the middle of the line when any of the factors below are present. If you have two (or more) of these, sound the line-sag alarm!

- **Light air** – When there's not much wind it takes longer for boats to get up to the line, and they are slowed much more by bad air.

- **Adverse current** – When the current is flowing in the same direction as the wind, it pushes boats away from the starting line.

- **Pin end upwind** – When there is pin bias it takes longer for boats to converge with the line on starboard tack, so it's easier to be late.

- **Long starting line** – The longer the line, the harder it is to judge location in the middle.

- **No good line sights** – If there are no good sights on shore, sailors get nervous about being too close to the line, and sag increases.

- **Starting penalty** – When you have an I, Z, U or Black flag penalty in effect, it tends to scare boats away from the line and cause more sag.

